agent cooperate to produce improved desensitizing action, and such improvement is further promoted by the presence of the other described components of such dentifrices, including the SAPP, fluoride, surfactant, and other components of such compositions, especially when such are in the forms of potassium compounds, such as potassium salts.

Although the invention has been described with respect to highly preferred embodiments thereof it really has broader application in the area of dentifrices and tooth treatments. As was previously indicated, other anti-tartar and anti-calculus compounds and mixtures of such compounds, such as various AAP's (azacylcoalkane-2,2-diphosphonic compounds, as described in Ser. No. 07/631,232), including AHP, may be employed instead of alkali metal polyphosphate, preferably as the potassium salt. Anti-calculus phosphono compounds that are useful include PPTA, PBTA and EHDP, and AHP is a preferred AAP. The proportion of such anti-calculus compound will usually be in the range of 0.2 to 5%, such as 0.5 to 1.5%, and it will preferably be present as a potassium salt. The tooth pain inhibitor will usually be 2 to 10% of the composition, preferably 3 to 8% and the inhibitor will preferably be potassium nitrate or potassium citrate. When potassium pyrophosphate is not employed as the anti-tartar agent, so its potassium content is not present to help increase the pain inhibiting properties of the pain inhibitor other sources of potassium should be present, such as potassium fluoride, potassium saccharin, potassium detergent, etc., and the potassium content of the composition, in addition to the potassium of the pain inhibitor, should be in the range of 0.2 to 5%, preferably 0.5 to 3%, and such potassium should be in ionizable form. In such concentrations the potassium will improve desensitizing action of the tooth pain inhibitor and will not make the toothpaste or oral composition excessively salty. Of course, for other compositions which are normally more dilute (mouth washes, for example) or more concentrated, proportions of potassium may be adjusted accordingly.

The invention has been described in conjunction with illustrative embodiments thereof but is not to be condidered to be limited to these because one of skill in the art will be able to utilize substitutes and equivalents thereof without departing from the bounds of the invention and the spirit thereof.

We claim:

1. A desensitizing oral composition which comprises an orally acceptable vehicle or base for such composition and as agent to close off subsequent penetration of pain to pulp and nerves a potassium salt of a synthetic anionic polymer polycarboxylate.

2. An oral composition according to claim 1 wherein said potassium salt of a polycarboxylate is present in amount of 0.5 to 4% by weight.

3. An oral composition according to claim 2 wherein said potassium salt of a polycarboxylate is potassium salt of copolymer of maleic anhydride and/or maleic acid with methyl vinyl ether, of a molecular weight in the range of 5,000 to 2,000,000. and is present in amount of 0.8 to 3%.

4. An oral composition according to claim 3 wherein the molecular weight by vapor pressure osmometry is in the range of 50,000 to 1,100,000 and said salt is present in amount of 1 to 2%.

5. An oral composition according to claim 4 wherein the molecular weight by vapor pressure osmometry is about 70,000 and said salt is present in amount of about 1.5%.

6. A process for the preparation of the desensitizing oral composition according to claim 1 wherein said agent is formed in situ in said composition in which humectant is dispersed with synthetic anionic polymeric polycarboxylate, water is added to the resulting slurry and a desensitizing potassium salt is admixed therewith to produce a gel phase, then neutralizing said polycarboxylate in said gel phase with potassium hydroxide to a pH in the range of 6 to 8 with mixing, continuing said mixing for 10 to 30 minutes after completion of the addition of said potassium hydroxide, admixing dentally acceptable polishing agent with the gel phase, mixing for 10 to 30 minutes under a vacuum in the range is 5 to 50 millimeters of mercury to produce a paste or gel, mixing an anionic detergent with the resulting paste or gel and then mixing for 3 to 10 minutes under a vacuum in the range of 5 to 50 mm of mercury.

7. A process according to claim 6 wherein said gel phase formed when water and said desensitizing potassium salt have been added is heated to a temperature in the range of 55° to 75° C. with mixing which is continued for 10 to 30 minutes after such temperature is reached and after completion of addition of the potassium hydroxide said gel phase is cooled in the range of 35° to 45° C.

8. A process according to claim 6 wherein said polishing agent is a siliceous polishing agent and a gel dentifrice is formed.

9. A process according to claim 6 wherein said polishing agent is dicalcium phosphate and a toothpaste is formed.

10. A process according to claim 6 wherein said desensitizing potassium salt is potassium nitrate, potassium citrate, potassium oxalate or mixtures containing at least one of said salts.

11. A process according to claim 10 wherein said desensitizing potassium salt is potassium nitrate.

12. A process for desensitizing sensitive teeth which comprises applying to said teeth a composition according to claim 1.

13. A process for desensitizing sensitive teeth which comprises applying to said teeth a composition according to claim 2.

14. A process for desensitizing sensitive teeth which comprisss applying to said teeth a composition according to claim 3.

15. A process for desensitizing sensitive teeth which comprises applying to said teeth a composition according to claim 4.

16. A process for desensitizing sensitive teeth which comprises applying to said teeth a composition according to claim 5.

17. An oral composition according to claim 1 wherein said composition contains a desensitizing amount of potassium nitrate, potassium citrate or potassium oxalate.

18. An oral composition according to claim 17 wherein said composition contains an antitartar amount of a polyphosphate.

19. An oral composition according to claim 1 wherein said potassium salt of a synthetic anionic polymer polycarboxylate is the fully neutralized potassium salt.

20. A process according to claim 6 wherein the fully neutralized salt of said synthetic anionic polymeric polycarboxylate is formed.

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